

CLAIMS

1. A pharmaceutical composition that potentiates immunogenicity of low immunogenic antigens, containing:
 - (A) one or more low immunogenic antigens;
 - (B) one vaccine carrier consisting in proteoliposomes derived from the Outer Membrane Protein Complex of a Gram-negative bacteria strain (*Neisseria meningitidis*), which has gangliosides incorporated therein; and
 - (C) eventually one or more adjuvants.
2. A composition of Claim 1, wherein the low immunogenic antigens may be selected from peptides, polypeptides, proteins, or their corresponding nucleic acid sequences, or target cells with vaccine interest, or lysates thereof, or combinations thereof.
3. A composition of claim 2, wherein the low immunogenic antigens or their extra-cellular domains are growth factor receptors.
4. A composition of claim 3, wherein the extra-cellular domains of the growth factor receptors may or may not contain the trans-membrane region.
5. A composition of claims 3 and 4, wherein the growth factor receptors are HER-1, HER-2, PDGF-R or any variation containing the extra-cellular domain, with or without the trans-membrane region.
6. A composition of claim 1, wherein the vaccine carrier proteoliposomes are obtained from the Outer Membrane Protein Complex from either a wild type or a genetically modified strain of *Neisseria meningitidis*.
7. A composition of claim 1, wherein the vaccine carrier proteoliposomes with gangliosides incorporated therein are obtained by hydrophobically incorporating said gangliosides into the Outer Membrane Protein Complex of *Neisseria meningitidis*.
8. A composition of claim 7, wherein the gangliosides being hydrophobically incorporated into the Outer Membrane Protein Complex of *Neisseria meningitidis* are GM1, GM3 or their N-glycosylated variations.
9. A composition of claim 1, wherein the adjuvant is an oily adjuvant, or a natural or recombinant polypeptide.
10. A composition of claim 9, wherein the oily adjuvant is the Incomplete Freund's Adjuvant.
11. A composition of claim 10, wherein the Incomplete Freund's Adjuvant is Montanide ISA 51.
12. A composition of claim 9, wherein the polypeptide adjuvant is a cytosine or a chymosin.

13. A composition of claim 12, wherein the cytosine is the Granulocyte-Macrophage Colony Stimulating Factor.
14. A composition of claims 1 to 13 for the prevention and treatment of cancer, particularly prostate, colon, lung, breast, ovary, head-neck, vulva, bladder and brain cancer, glioma, as well as in non-transmissible chronic diseases.
15. A composition of claims 1 to 13 for prevention and treatment of viral and bacterial infectious diseases.
16. A composition of claim 14 for treatment of Acquired Immuno-deficiency Syndrome.
17. A composition of claims 1 to 13 for the treatment of auto-immune diseases.
18. The use of the composition of claims 1 to 17 in the prevention and treatment of cancer, particularly prostate, colon, lung, breast, ovary, head-neck, vulva, bladder and brain cancer, glioma, as well as in non-transmissible chronic diseases.
19. The use of the composition of claims 1 to 17 in the prevention and treatment of viral and bacterial infectious diseases.
20. The use of the composition of claims 1 to 17 in the treatment of auto-immune diseases.

11/11/2019 10:11:11 AM